

## Five Year Review Report

### Ilada Energy Superfund Site Alexander County, East Cape Girardeau, IL

Pursuant to CERCLA

Prepared by:  
Illinois EPA for  
U.S. Environmental Protection Agency  
Region 5  
Chicago, Illinois

Richard C. Karl, Acting Director  
Superfund Division

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Date

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## **List of Acronyms**

<b>ARAR</b>	Applicable or Relevant and Appropriate Requirement
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act
<b>CFR</b>	Code of Federal Regulations
<b>IAC</b>	Illinois Administrative Code
<b>IAGO</b>	Illinois Attorney General's Office
<b>IEPA</b>	Illinois Environmental Protection Agency
<b>MCL</b>	Maximum Contaminant Level
<b>NCP</b>	National Priorities List
<b>O&amp;M</b>	Operation and Maintenance
<b>PRP</b>	Potentially Responsible Party
<b>RA</b>	Remedial Action
<b>RCRA</b>	Resources Conservation and Recovery Act
<b>RD</b>	Remedial Design
<b>RI/FS</b>	Remedial Investigation/Feasibility Study
<b>ROD</b>	Record of Decision
<b>RPM</b>	Remedial Project Manager
<b>USEPA</b>	United States Environmental Protection Agency
<b>USDOJ</b>	United States Department of Justice

## **Executive Summary**

The remedy for the Ilada Energy Superfund Site in East Cape Girardeau, Illinois consisted of the previous removal action and the current institutional controls as the selected remedy in the 1999 ROD. The Site achieved remedial action construction completion in 1999. The trigger for the five-year review was the Record of Decision signed on September 27, 1999.

The assessment of this five-year review found that the remedy was constructed in accordance with requirements of the final ROD. The remedy is functioning as designed. The immediate threats have been addressed and the remedy is protective of human health and the environment. Long-term protectiveness will be ensured as long as existing deed restrictions and covenants remain in place.

## Five-Year Review Summary Form

### SITE IDENTIFICATION

**Site name (from WasteLAN):** Ilada Energy Superfund Site

**EPA ID (from WasteLAN):** ILD0038540002

**Region:** 5

**State:** IL

**City/County:** Alexander County

### SITE STATUS

**NPL status:** Deleted

**Remediation status:** Complete

**Multiple OUs?\*** NO

**Construction completion date:** 09/27/1999

**Has site been put into reuse?** NO

### REVIEW STATUS

**Lead agency:** State of Illinois

**Author name:** Fred W. Nika, Jr., P.E.

<b>Author title:</b> Remedial Project Manager	<b>Author affiliation:</b> Illinois EPA
<b>Review period:**</b> 06/01/2004 to 09/30/2004	
<b>Date(s) of site inspection:</b> <u>August 26, 2004</u>	
<b>Type of review:</b> Post SARA	
<b>Review number:</b> First	
<b>Triggering action:</b> Record of Decision	
<b>Triggering action date (from WasteLAN):</b> <u>September 27, 1999</u>	
<b>Due date (five years after triggering action date):</b> <u>September 27, 2004</u>	

\* ["OU" refers to operable unit.]

\*\* [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

## Five-Year Review Summary Form, cont'd.

**Issues:**

None.

**Recommendations and Follow-up Actions:**

Conduct reviews at minimum 5-year intervals to ensure the remedy maintains its protectiveness.

**Protectiveness Statement(s):**

The remedy at the Ilada Energy site is protective of human health and the environment.

**Other Comments:**



**U.S. Environmental Protection Agency  
Region 5  
Five Year Review Report  
Ilada Energy Superfund Site  
Alexander County, East Cape Girardeau, IL**

**I. INTRODUCTION**

The purpose of a five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and identify recommendations to address them.

The Agency is preparing this Five-Year Review report pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

*If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The Agency interpreted this requirement further in the NCP; 40 FR §300.430(f)(4)(ii) states:

*If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

The Illinois Environmental Protection Agency (Illinois EPA) conducted the five-year review of the remedy implemented at the Ilada Energy Superfund Site in East Cape Girardeau, Illinois ("the Site"). This review was conducted by the Remedial Project Manager (RPM) for the entire Site from June 2004 through September 2004. This report documents the results of the review.

This is the first five-year review for the Site. The triggering action for this statutory review is the Record of Decision for the site in September 1999. The five-year review is required because hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure. This review will be placed in the Site files and local repositories for the Ilada Energy Superfund Site (the "Site") in Alexander County, East Cape Girardeau, Illinois. The repositories are located in McClure, IL and Cape Girardeau, MO.

## II. CHRONOLOGY

Event	Date
Removal Consent Decree and Order Signed.	01/18/83
USEPA proposes to place Ilada Energy on NPL.	06/24/88
Unilateral Order to begin Removal Action issued	2/08/89
Ilada Energy NPL Listing.	10/04/89
Major Removal Action components completed	03/91
Remedial Investigation report completed	04/99
Removal Action Report accepted by USEPA	09/09/92
Feasibility Study completed	07/99
Human Health Risk Assessment Finalized.	07/99
ROD including Remedial Action Plan approved by IEPA.	09/28/99
ROD approved by USEPA.	09/27/99
Remedial construction completed. (No Further Action remedy selected w/ICS)	09/27/99
1 <sup>st</sup> Five-year Review initiated.	06/04
Five year site visit	08/26/04

## III. BACKGROUND

### Physical Characteristics

The Ilada Energy Company encompasses approximately 17 acres in southern Illinois, south of the town of East Cape Girardeau in the northwest quadrant of Section 32, Township 14 South, Range 3 West. The area is relatively flat with a ground surface elevation of approximately 330 feet above mean sea level. The site is located within the 100-year floodplain of the Mississippi River on the “dry” side of the 20-foot high flood control levee which is located immediately to the south of the site. A 200-foot wide slough was formed along the south toe of the levee as a result of borrowing material for its construction. This area is swampy during the wet season (approximately Fall through Spring) supporting riparian vegetation consisting of cattails and other aquatic plants. The quarter-mile wide strip between the river and the slough comprises wooded areas, dense brush and ground vegetation, and patches of overgrown, idle cropland.

The main site is surrounded by a chain-link fence to restrict access. Prior to the removal action, there were seven structures and twenty-two bulk oil tanks and numerous underground pipelines. All were removed from the site along with the tank contents and the grossly contaminated soil on site. The site is overgrown yearly with native grasses and weeds.

## **Land and Resource Use**

The surrounding area is utilized primarily for agricultural purposes. Farmland borders the site to the northeast, but the remainder is owned by the US Forest Service and used for silvaculture.

## **History of Contamination**

The site originally consisted of a tank farm built for the U. S. Department of War (DOW) in 1942. The location was selected to take advantage of access provided by the Mississippi River. The facility was operated by Allied Oil Terminal Company as a bulk fuel oil storage/transfer terminal until the early or mid-1950's. Transfer piping ran across the levee towards the river.

After Allied Terminal ceased using the facility in the mid-1950's, the site sat idle until purchased by the Kara Oil Company in 1979. In 1982, it was assigned to Larry Wilson of the Ilada Energy Company (Ilada).

From 1981 to 1983, Ilada operated the tank farm as a waste oil reclamation facility. Additional tanks and structures were added to the facility in that time period.

## **Initial Response**

Several inspections of the facility were conducted by the Illinois EPA and the USEPA in 1982 and 1983. These inspections revealed that Ilada was improperly storing, handling, mixing, and disposing waste oils contaminated with PCBs. Ilada and the USEPA entered into a consent decree and order on January 18, 1983 to correct these deficiencies. Among other action, the order required the removal "forthwith and without delay" of PCB-contaminated materials in accordance with TSCA. It also required Ilada to close all activities relating to the receipt, transportation, storage, handling, use and disposal of PCBs, chemicals, and other wastes. Later in 1983, the boiler was removed by Ilada as well as some pumps and related equipment from the pump house, and office and laboratory equipment were removed from the Office Building. In 1986, the Illinois EPA installed six groundwater monitoring wells on the site. The site was subsequently proposed for inclusion on the National Priorities List (NPL) pursuant to Section 105 of CERCLA on June 24, 1988. The listing of the site on the NPL was finalized on October 4, 1989. Site visits in 1989 indicated spillage and leakage of oils on the ground near several tanks and tank valves.

In 1989, after Ilada made no effort to remove PCB materials from the site, a unilateral Administrative Order was issued pursuant to Section 106 of CERCLA. As a result of the Section 106 Order, four of the companies included as PRPs formed the Ilada Energy Company - East Cape Girardeau Group. These companies included Shell Oil Company, Metal Container Corporation, Granite City Steel Division of National Steel, and Emerson Electric Company. The group was then ordered to initiate a Remedial Investigation (RI) to determine the source, nature and extent of the contamination at the site following the removal action.

The final RI was finalized and approved by Illinois EPA in April of 1999. The human health Baseline Risk Assessment (HHRA) and Ecological Risk Assessment (ERA) were finalized and approved by Illinois EPA in July of 1999.

### **Basis for Taking Action**

Prior to the removal action (1989-1991), on-site, liquid oily wastes found on site were contaminated with volatile organic compounds (VOCs), PCBs, and heavy metals including lead, arsenic, and zinc. On-site surface soils were contaminated with PCBs and heavy metals. The potential existed for site-related contaminants to migrate off-site into the sole source drinking water supply of the area residents. Additionally, agricultural lands and the nearby Mississippi River could have been adversely affected by oily wastes and associated contaminants from the site.

## **IV. REMEDIAL ACTIONS**

The removal action conducted between 1989 and 1991 substantially mitigated the health and environmental threats posed by this site. This action resulted in the removal from the site of all tanks and their contents, piping, structures, and grossly contaminated soils. A total of 442,162 gallons of oil and sludge were sent offsite to be burned as waste fuel in cement kilns; 142,700 gallons of PCB contaminated oil and sludge were incinerated at a permitted off-site facility; 865,700 gallons of contaminated water were treated and discharged to the river after testing showed that it met Clean Water Act standards; 1055 cubic yards of soil and miscellaneous debris were disposed offsite as special waste; 637 cubic yards were disposed offsite as demolition debris; fifty cubic yards of PCB-contaminated soil were landfilled at a permitted offsite facility; and 1264 tons of steel were recycled. All wastes were removed from the site and treated or disposed elsewhere.

After the removal action, a Remedial Investigation was conducted to determine the nature and extent of the contamination present on and immediately off-site. The removal action mitigated most of the environmental threats and the site now poses an excess lifetime cancer risk of only  $2.2 \times 10^{-6}$ .

### **Remedy Selection**

The RI sampling was performed after the removal action, and the determination of risks at the site was made reflecting conditions present after the removal. The corresponding Baseline Risk Assessment was performed using the RI as a source of data. The Baseline Risk Assessment concludes that the excess lifetime cancer risk at the site is  $2.2 \times 10^{-6}$ . Based upon evaluation of these findings, it was determined that the site no longer posed an unacceptable risk. It was therefore determined that no further remedial action was necessary for the purpose of mitigating environmental threats at this site. Because the removal action mitigated a substantial portion of the environmental risk associated with site operations, the remedy selected in the September 27, 1999 ROD was "No Further Action". This remedy requires maintenance of institutional controls to prevent unacceptable exposures from hazardous substances over a long period of time.

### **Remedy Implementation**

The institutional controls that have been implemented at the site consist of the following:

- Prohibiting the installation of groundwater wells for the purpose of producing potable water, and;
- Prohibiting the use, improvement or maintenance of any type of residential purpose.

No other actions have taken place at this site since the completion of the removal/remedial action.

## **V. PROGRESS SINCE LAST FIVE YEAR REVIEW**

This is the first Five Year Review for this site.

## **VI. FIVE YEAR REVIEW PROCESS**

### **Administrative Components**

The Ilada Energy Five Year Review team was led by Fred Nika of the Illinois EPA, Project Manager for the Ilada Energy Superfund Site.

Also, Stan Black , the Illinois EPA Community Relations coordinator participated in the Five Year Review process.

From June 2004 to September 2004, the review team established and followed the review schedule as follows:

- Document Review;
- Data Review;
- Community Involvement ;
- Press Release;
- Site Inspection;
- Five-Year Review Report Development and Review

The public was notified of the five-year review in August 2004 through a press release.

### **Document Review**

Removal documents, Remedial Investigation Report, and Record of Decision.

## **VII. TECHNICAL ASSESSMENT**

### **Question A: Is the remedy functioning as intended by the decision documents? YES**

The site was successfully remediated during the Removal Action. Following the Removal Action, a deed restriction was placed on the property to prevent usage of groundwater. As there are no additional operating systems associated with the site remedy, there is little true analysis of any

systems to be done. Annual O&M costs are nonexistent and there is no indication of any difficulties with remedy.

No activities were observed that would have violated the intent of proposed institutional controls. There were no new uses of ground water observed at the Site. The fence around the Site is intact and in good condition.

**Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid? YES**

There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy.

Changes in standards and Things to be Considered

As the remedial work has been completed, most ARARs or performance standards cited in the ROD have been met.

Changes in Exposure Pathways, Toxicity, and Other Contaminant Characteristics

The exposure assumptions used to develop the Human Health Risk Assessment included potential future exposures (On-Site Commercial/Industrial Worker and On-Site Construction Worker). There have been no changes in the toxicity factors for the contaminants of concern that were used in the baseline risk assessment. These assumptions are considered to be conservative and reasonable in evaluating risk and developing risk-based cleanup levels. There has been no change to the standardized risk assessment methodology that could affect the protectiveness of the remedy.

**Question C: Has any other information come to light that could call into question the protectiveness of the remedy? NO**

There is no other information that calls into question the protectiveness of the remedy.

Technical Assessment Summary

According to the data reviewed and the Site inspections, the remedy is functioning as intended by the final ROD. There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. There have been no changes in the toxicity factors for the contaminants of concern that were used in the baseline risk assessment methodology that could affect the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

**VIII. ISSUES**

None.

## **IX. RECOMMENDATIONS AND FOLLOW-UP ACTIONS**

There are no real performance standards for the Site as the site remedy is complete. Therefore, the recommendation resulting from this five year review would be to continue maintenance of the remedy components (deed restrictions and covenants) as a component of the remedy and to continue to perform 5-year reviews to ensure these restrictions are maintained.

## **X. PROTECTIVENESS STATEMENT**

The remedy is protective of human health and the environment.

## **XI. NEXT FIVE-YEAR REVIEW**

The next five-year review will be completed by September 28, 2009, which is five years from the date of this five-year review.

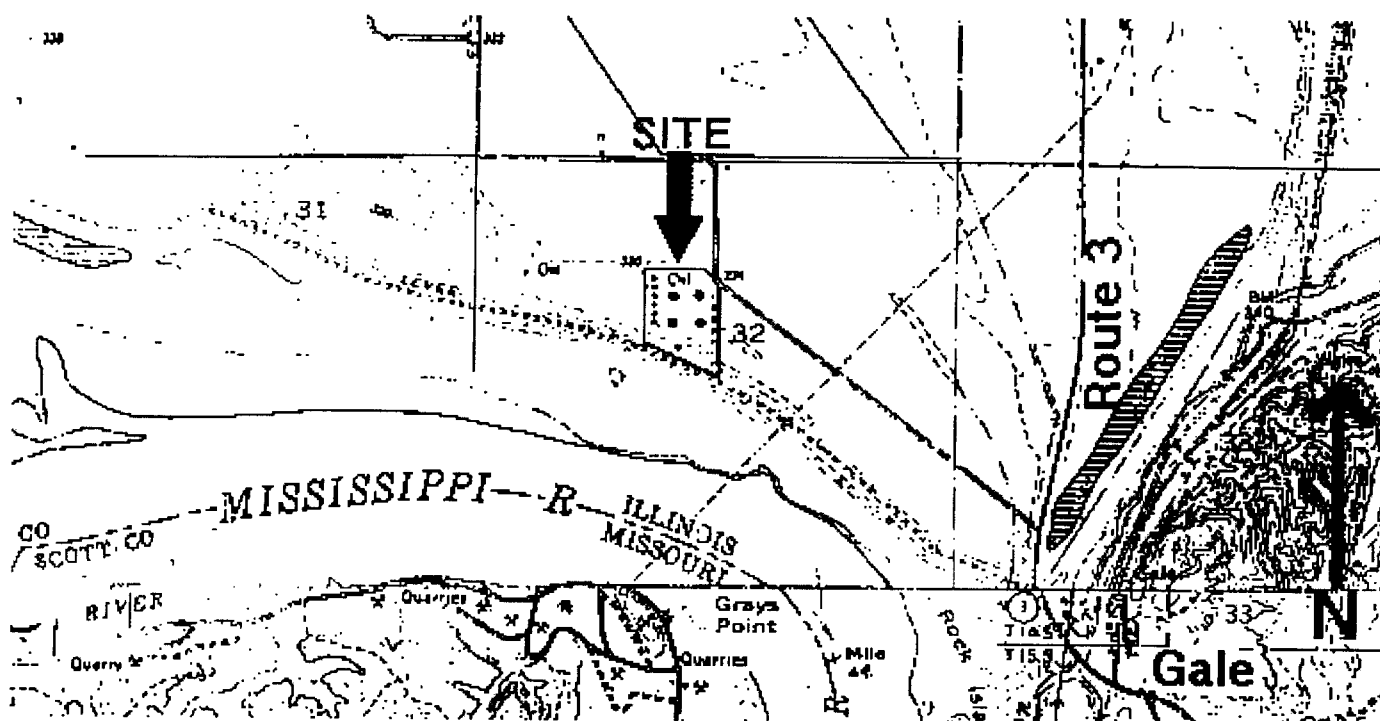


Figure 1-1 Site Map